67. The method of claim 66, wherein the place away from said transmission to which said by-product gas is directed is the catalytic converter. --

REMARKS

Please reconsider this application.

The present amendment would more understandingly pictorially illustrate and particularly point out and distinctly claim the invention, and it is fully supported by the underlying specification. No new matter is entered hereby.

Hereby, FIGS. 1A & 1B are offered for addition; claims 17, 19, 20, 46, 47, 51 & 52 are offered for amendment; claims 54-60 are offered for cancellation without prejudice or disclaimer, and claims 61-67 are offered for addition. Claims 16, 17, 19, 20, 39, 42, 43, 46, 47, 50 & 61-67 would be present.

Twenty total claims would be present. Although there would be present five independent claims, Nos. 16, 50, 61, 64 & 65, five independent claims were paid for with the original claims, which were canceled previously; hereby, the same number of claims canceled would be added. Accordingly, no additional fee is due.

The present amendment may be entered under 37 CFR 1.116 because it places the claims in condition for allowance, or, should an appeal be necessary, eliminates one issue or more than one issue for appeal, as can be seen by inspection and explained further below. No claims in excess of those previously rejected are presented hereby. Please, therefore, enter this amendment.

For convenience, the claims remaining in the present application and not offered for amendment hereby are as follows:

16. A method for controlling oxidative degradation of an oleaginous liquid substance in a generally enclosed, vented space in a working machine, which comprises providing said working machine having said space; providing said oleaginous liquid substance; and blanketing said oleaginous liquid substance in said space with an inert gas blanket to control oxidative degradation of said oleaginous liquid substance.

39. The method of claim 17, wherein said working machine is selected from the group consisting of said transmission box and said gear box.

42. The method of claim 16, wherein said inert gas of said inert gas blanket is provided from separation of air with a membrane-containing device.

43. The method of claim 39, wherein said inert gas of

said inert gas blanket is provided from separation of air with a membrane-containing device.

50. A method for controlling oxidative degradation of an engine oil in a crankcase of an internal combustion engine, which comprises providing said engine; providing said engine oil to said crankcase; and blanketing said engine oil in said crankcase with an inert gas blanket to control oxidative degradation of said engine oil.

53. The method of claim 52, wherein said inert gas of said inert gas blanket is provided from separation of air with a membrane-containing device.

With respect to the restriction requirement as set forth in Paper No. 8, claims 54-60 would be canceled without prejudice or disclaimer. Thus, that requirement would be obviated.

With respect to the objection to the drawings as set forth in Paper No. 8 under 37 CFR 1.183(a), FIG. 1A would show a protected transmission 100 of the invention, and FIG. 1B would show a protected gear box 100 of the invention other than a transmission. Note that other than the inert gas providing device 50, the transmission and gear box come from known prior art. See, e.g., U.S. patent Nos. 5,318,080 (transmission) and 4,393,922 (gear box, cited by the Examiner). Thus, that objection would be obviated.

With respect to the objections to the claims as set forth in Paper No. 8 under 37 CFR 1.126, claim 19 would be amended to depend on present claim 17. So that objection would be obviated.

The rejection of claims 16, 17, 39, 42, 43 & 47 as set forth in Paper No. 8 under 35 USC 112, first paragraph, is respectfully traversed. The inventors clearly had possession of the invention and disclosed such at the time of the filing of the application, and no new matter has been added. Any person skilled in the art would recognize that many working machines having enclosed space and lubricants in the enclosed space are vented, which include in particular common crankcases, transmissions, and gear boxes other than transmissions, as is recognized in significant patent art. See, e.g., Rose et al., US 5662156, cols. 1-2 (vented crankcase); Davison, Jr. et al., US 5062447, cols. 1-2 (vented transmission); Ishikawa et al., US 5052988, cols. 6-7 (vented gear box); Fisher, US 5284225, abstract (vented gear box) (copies of the cited parts of these patents submitted herewith) . Moreover, the original specification of this application expressly recognizes this in relation to the present invention, as it refers to "overpressure" as, for example, at page 9, line 15. Compare, claim 64. Thus, this rejection should be withdrawn.

Claim 17 is offered for amendment to delete reference to "a combination thereof," without disclaimer of the same. Claims 46 & 47 are offered for amendment so as to eliminate offending

phraseology and more distinctly recite "a part of the machine other than said enclosed space." Thus, the rejections of claims 17 and 39 & 43 (dependent thereon), and 46 & 47, as set forth in Paper No. 8 under 35 USC 112, second paragraph, would be obviated.

The rejection of claim 16 under 35 USC 102(b) over Kopel, US 4561393, as set forth in Paper No. 8, is respectfully traversed. Kopel does not describe the claimed invention. Again, Kopel describes a sealed hydraulic lifter system. In contrast, claim 16 requires a vented system, which is not described by Kopel. Thus, this rejection should be withdrawn.

The rejection of claims 16, 17, 39 & 50 under 35 USC 103(a) over Elizabeth et al., US 3617580, in view of Fujiyama et al. (Horiba Ltd.), JP 2082304A, as set forth in Paper No. 8, is respectfully traversed. The proposed combination does not teach nor suggest to a person of ordinary skill in the art any of the claimed embodiments under the meaning of Sec. 103(a).

Elizabeth et al. discloses a lubricating oil treatment system. That treatment concerns and involves circulation of crankcase oil through a solid, inorganic substance containing filter element. The substance of the filter element can be an active metal such as zinc, aluminum, magnesium, etc., or can even be an oxidizable material such as red phosphorus. It thus would appear to remove acid functionality from the oil. That treatment may also include use of so-called "inert" filter elements such as diatomaceous earth, kaolin, kieselguhr, activated clay, charcoal, activated carbon and fuller's earth. The Elizabeth et al. patent is directed to correction of sludge formation, caused by nitrogen compounds including oxides of nitrogen in the combustion process.

Horiba discloses use of a floating inner cover which resides on the surface of oil stored in a tank. Above the cover is an inert gas supply.

Nothing in Elizabeth et al. suggests the value of reducing the oxygen content in a gas (e.g., air) above the oil in the crankcase or in any other space above oleaginous liquid in a working machine. As well, any phosphorus compound formed between the red phosphorus and polar or acidic oxidized oil would be soluble enough to pass through the filter into the oil supply. Such phosphorus compounds have sufficient volatility to pass through the crankcase venting system (e.g., Selby/Selby et al., U.S. patent Nos. 5,667,302; 5,692,892; 5,922,973; 6,083,380) and cause premature failure of the catalytic exhaust system. Thus, Elizabeth et al. does not provide the necessary advantage to suggest modification of the same along the lines of the present invention, and moreover, teaches away from the present invention.

Furthermore, nothing in Horiba relates to protection of oil in a working machine, nor does Horiba suggest that an inert gas such as nitrogen should be in contact with the oil. Rather, Horiba teaches that an inner cover should contact the oil. The

upshot is clear: Horiba in essence teaches the ordinary artisan that an inert gas blanket alone is insufficient to protect oil from oxidation, thus teaching away from direct inert gas blanketing of oil as claimed.

Thus, Horiba cannot be combined with Elizabeth et al., since neither relates to the art of the present invention which employs an inert gas above and in contact with an oleaginous liquid in a working machine, nor does the art of Horiba (storage) relate to the art of Elizabeth et al. Even if, for the sake of argument, the references could be properly combined, their teachings would not motivate one of ordinary skill to arrive at the claimed invention. Clearly, Horiba does not make up for the deficiencies in Elizabeth et al. Moreover, the references each alone, and together, teach away from the present claimed invention, to nitrogen compound protection by solid filters and to solid covers on top of an oil supply. Moreover, if combinable, the proposed combination would be inoperable as an inner cover, effective for oxidation protection, would prohibit the lubricant from being able to splash, etc., to lubricate the working machine.

And so, this rejection should be withdrawn.

The rejection of claims 19 & 20 under Sec. 103(a) over Kopel in view of Gast, Jr., US 5649995, as set forth in Paper No. 8 is respectfully traversed. The proposed combination does not teach nor suggest to a person of ordinary skill in the art any of the claimed embodiments under the meaning of Sec. 103(a).

Both of these references have been discussed of record. Recall, the Feb. 9, 2000 interview. See, the Examiner's 2/9/00 Interview Summary; the Applicants' Record of Interview filed with the Amendment FEB 14 2000; and the said Amendment, pages 5-6.

In short, again, Kopel relates to a sealed hydraulic lifter system. Gast, Jr. discloses nitrogen generation control systems as for tractor trailer storage systems. The two patents are unrelated to each other, and to the present invention. Moreover, again, the present invention concerns a vented system. In other words, the present claims at issue point out a dynamic system, whereas Kopel especially and Gast, Jr. represent static systems.

Furthermore, claim 20 has been formally amended to more particularly point out how effective the claimed 20,000-mile limitation is in comparison to unprotected oil. Such is a difference in kind, not merely degree, to say the least.

In turn, this rejection should be withdrawn.

The rejection of claims 19, 20, 42, 43 & 51-53 under Sec. 103(a) over Elizabeth et al., in view of Horiba, in view of Gast, Jr., as set forth in Paper No. 8 is respectfully traversed. The proposed combination does not teach nor suggest to a person of ordinary skill in the art any of the claimed embodiments under the meaning of Sec. 103(a).

The Elizabeth et al., Horiba, and Gast, Jr. references have already been discussed, both in the present paper, and also, as concerns Gast, Jr., of record as indicated above.

Since the primary combination of Elizabeth et al. in view of Horiba, as set forth above, is inapplicable and does not suggest the modifications of even the base claim, and Gast, Jr. does not add anything to rectify this deficiency, the combination must fail. Furthermore, the primary combination, as noted above, teaches away from the claimed invention, which is strong evidence of unobviousness and a clue in general that the same are not to be applied under the meaning of Sec. 103(a). Moreover, neither of the secondary nor tertiary references relates to the art of protecting an oleaginous substance in a working machine, as in base claim 16, nor particularly to engine oil protection in the crankcase of a working internal combustion engine, as in base claim 50, and more, Gast, Jr. does not relate to the arts of the primary and secondary references, nor especially even to the art of the base claims 16 & 50. Note, claims 19, 20, 42 & 43, and claims 51-53. Only relevant art may be properly applied.

With particular respect to claims 20, 51 & 52, which point out differences in kind, not merely degree, as for driving 20,000 miles or more with petroleum based oil without an oil change without benefit of this invention, this is hardly a reasonable option, which can literally force the breakdown of the engine thereby, and as for driving 50,000 miles or more, even more applies. If the Examiner disagrees, he is invited to make of record facts supporting his speculative, dissenting views by entry of an Examiner's affidavit under 37 CFR 1.104(d)(2).

Accordingly, this rejection should be withdrawn.

The rejection of claim 46 under Sec. 103(a) over Kopel in view of Gast, Jr. in view of Tremain, US 4594080, as set forth in Paper No. 8, is respectfully traversed. The proposed combination does not teach nor suggest to a person of ordinary skill in the art the claimed embodiment under the meaning of Sec. 103(a).

The Kopel and Gast, Jr. references have been discussed already. Note, the above argument and reference to arguments of previous record.

Tremain discloses molecular sieve type gas separation systems. It teaches separation of air for delivery of oxygen.

Since the primary combination fails to render obvious the intervening or base claims (19, 16) from which claim 46 depends, and Tremain adds nothing to remedy those deficiencies, by mere virtue of its dependence on these claims, claim 46 is allowable. Moreover, the intent of Tremain is only to deliver oxygen, not nitrogen, particularly not to a working machine. Thus, since the intents of a reference cannot be destroyed to establish a prima facie case of obviousness, the reference cannot be properly applied under the meaning of Sec. 103(a). Moreover, nothing

relates therein to delivery of nitrogen, and so, the reference is not properly applicable. Note that pressure swing adsorption, of which the Tremain disclosure represents a type, is a bulky and complicated system, as opposed to a light weight small unit such as in which the present claimed membrane-containing invention can be embodied: even small units of Tremain-type devices for an individual person in supply of enriched oxygen to people with compromised lung capacity weigh a hundred pounds or more. There is nothing in Tremain or any other prior art that would suggest its use with a working machine.

Therefore, this rejection should be withdrawn.

The rejection of claim 47 under Sec. 103(a) over Elizabeth et al. in view of Horiba in view of Tremain, US 4594080, as set forth in Paper No. 8, is respectfully traversed. The proposed combination does not teach nor suggest to a person of ordinary skill in the art the claimed embodiment under the meaning of Sec. 103(a).

The Elizabeth et al., Gast, Jr., and Tremain references have been discussed already. Note, the foregoing arguments. Again, however, Tremain discloses molecular sieve type gas separation systems. It teaches separation of air for delivery of oxygen.

Since the primary combination fails to render obvious the intervening or base claims (42, 16) from which claim 47 depends, and Tremain adds nothing to remedy those deficiencies, by mere virtue of its dependence on these claims, claim 47 is allowable. Moreover, again, the intent of Tremain is only to deliver oxygen, not nitrogen, particularly not to a working machine. Thus, since the intents of a reference cannot be destroyed to establish a prima facie case of obviousness, the reference cannot be properly applied under the meaning of Sec. 103(a). Moreover, nothing relates therein to delivery of nitrogen, and so, the reference is not properly applicable. There is nothing in Tremain or any other prior art that suggests its use with a working machine.

Therefore, this rejection should be withdrawn.

Overall, with respect to the rejections under Sec. 103(a), absent the Applicants' invention disclosure, nothing in the art suggests the invention, or links the bits and pieces of prior art that have been applied in Paper No. 8. The missing link is the present invention disclosure, but to use its claims as a roadmap for finding the bits and pieces of unrelated art or to apply it as a piece of prior art is a mere exercise in hindsight, and is strictly forbidden. None of the claims are rendered obvious.

The reasoning set forth in Paper No. 8 is in serious error.

Please, therefore, withdraw these objections and rejections.

Clearly, none of the claims 61-67 is described by any art of record as inspection shows. With respect to claims 61-64, no art

describes a method for controlling oxidative degradation of an engine oil in a crankcase of an internal combustion engine and delivering oxygen to a place away from said crankcase, as pointed out in base claim 61 and dependent claims 62 & 63 and independent claim 64. As for claims 65-67, no art describes a method for controlling oxidative degradation of a transmission fluid in a transmission and delivering oxygen to a place away from said transmission, as in base claim 65 and dependent claims 66 & 67.

Thus, the application is in condition for allowance. Yet, the Examiner remains invited to call the undersigned to discuss the case or to seek authorization for an Examiner's amendment.

A Notice of Allowance is solicited.

Respectfully,

Dated: September 21, 2000 A.D.

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